Table 1

Fly primers for qRT-PCR

Name of gene	5' sequence	3' sequence	Accession no.
SCP1	5' atgggcgaactatacgagtgcgttc 3'	5' cttgtctgctgctggttcaacatgg 3'	CG5830
GAPDH	5' atcaacgacaacttcgagatcgtcg 3'	5' gcggttggagtagccaaactcgttg 3'	CG12055
ribosomal protein S35	5' atgtcgctcttgcaaaaactaagc 3'	5' ttataggatatcttcgattttcggc 3'	CG5497
beta-actin	5' tgaagatcctcaccgagcgcggcta 3'	5' gaccggactcgtcatactcctgcttg 3'	NM 079486
Na Channel II	5' cagctggtgcgggagtacggcttcc 3'	5' tgcgcagctcgcccatgtagacctg 3'	CG9071
synapsin	5'gagctgtcgttgagctttggcg3'	5'cgcgtggattggggaagaaggtc3'	CG3985
cholineAcetylTransferase	5' actgggcctattactactggctc 3'	5'ccgtaaaaccgcgcgcattaaagt 3'	CG32848
ELAV	5' caacgaagccgagcgagccatccag 3'	5' tggtcatggtcacgaatccgaatc 3'	CG4396
beta-tubulin	5' gcaacaactgggccaagggtcattac 3'	5' cttggcatcgaacatctgctgggtcag 3'	CG9277
Neurofilament H	5' gccttccaagagcacgacgtacaaag 3'	5' cgatcagaagtggatcgcggtcctta 3'	CG7421
peptidyl-glycine oxygenase	5' ctcgccaat caagtacctt gtgctgc 3'	5' ccctggctgaagcagaacttcatg 3'	CG3832
myosin-light-chain-kinase	5' cttcgctcgcacctcagaaacgatc 3'	5' tatggcataaaaggtgtggccattc 3'	CG1915
GCM	5' caacggaactaacggccgctccgag 3'	5' gttctcgccatcgttgagatctgc 3'	CG12245
nMDAR	5'ctcgccattgttctcctggtgg 3'	5' cgtacatgaggtagaccctgga 3'.	CG14793

Mouse Primers for RT-PCR

Name of gene	5' sequence	3' sequence	Accession no.
SCP1	5' cggccgtcattactcagatcagcaagg 3'	5' gcagtgaacagcacacattcaaagagct 3'	AY028804
GAPDH	5' tccaccaccctgtgttgctgta 3'	5' accacagtccatgccatcac 3'	NM_008084
ngn1	5'catctctgatctcgactgctccagcag 3'	5' gggtcagagagtggtgatgccacagtg 3'	NM_010896
beta-tubulin	5' tgccctcacccaaggtctctgacactgtgg 3'	5' cttgaacagctcctggatggcagtgctg 3'	NM_023716
stra13	5'ctgtggccatggagggaaacagtggcttcc 3'	5'agaagtccaggagcagctgagggagcac 3'	NM_016665
GAD1	5'gcaaccgcaggcacgactgtttacggag 3'	5' agatgaccatccggaagaagttggccttgt 3'	NM_008077
nrsf	5' ccatcgcctgcgaaacctccccaggtaga 3'	5' agccaactcagctggactctctccagcttc 3'	NM_011263

Human Primers for ChIP assay

Name of gene	5' sequence	3' sequence	Accession no.
GAD1 promoter chr2q31	5' tgcggtttatattatcctgcacgccgggag 3'	5' caccggttcgagtccccggagaggatatc 3'	NT005403
GAD1 3' gene chr2q31	5' ggagccctatgcagggtaagggaataa 3'	5' gggctttgatttttggagccaccttgtg 3'	NT005403
GRIN 2A promoter chr16	5' aactatttctgggtcactccttagacac 3'	5' gctgggaggaatgctttctaatgcatttg 3'	NT010393
SCN2 promoter chr.2q23	5' ctggataagttactgaagagtgggctttgg 3'	5' cagacgacaagttacatgcaacatg 3'	NT005403

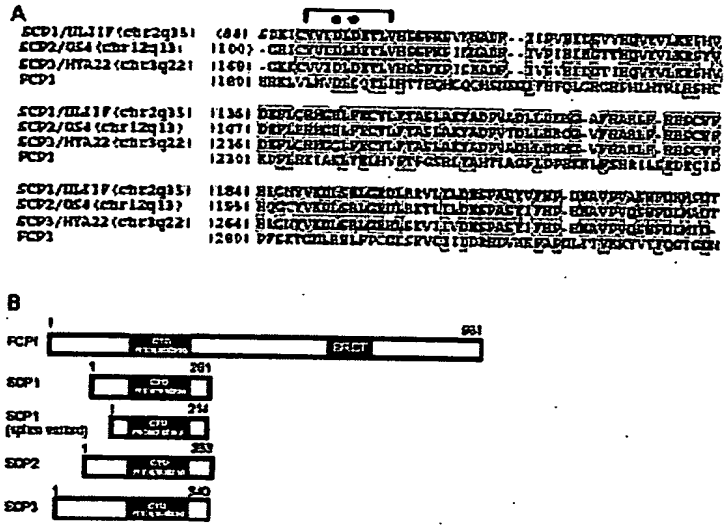


FIG. 1

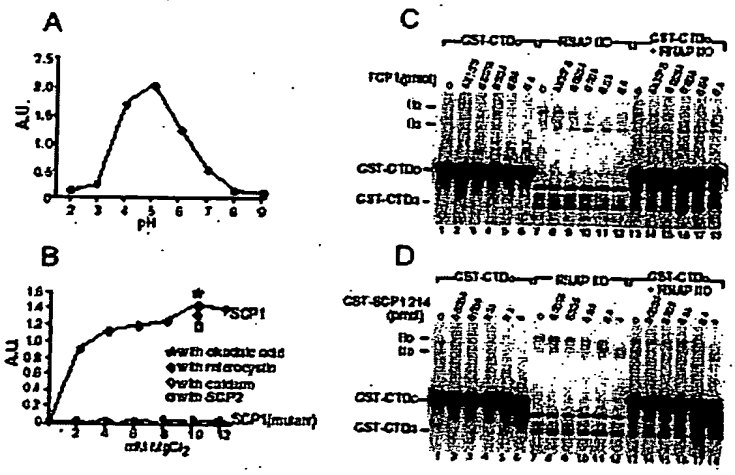


FIG. 2

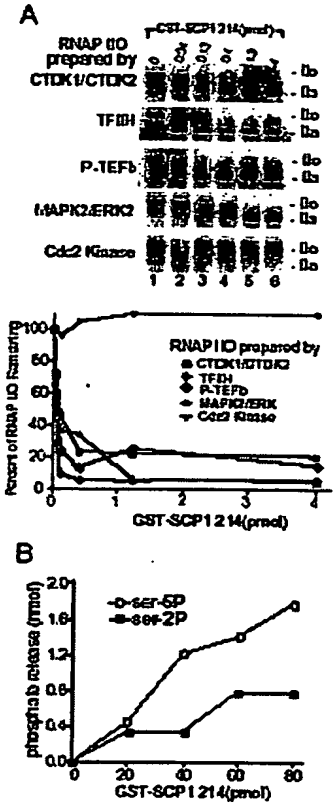

A
RNAP IIO prepared by
CTDK1/CTDK2
TFIIH
P-TEFb
MAPK2/ERK2
Cdc2 Kinase
IIo
IIa
1 2 3 4 5 6
Percent of RNAP IIO Remaining
RNAP IIO prepared by
CTDK1/CTDK2
TFIIH
P-TEFb
MAPK2/ERK
Cdc2 Kinase
GST-SCP1 214(pmol)
B
phosphatase activity (pmol)
ser-5P
ser-2P
GST-SCP1 214(pmol)

FIG. 3

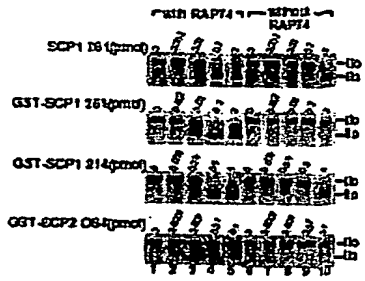


FIG. 4

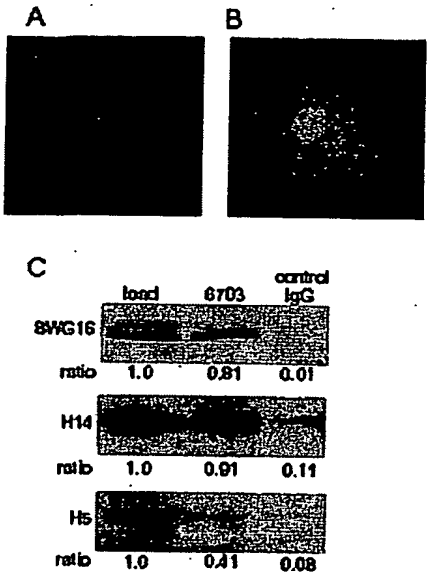

A
B
C
load
6703
control IgG
SWG16
ratio 1.0 0.81 0.01
H14
ratio 1.0 0.91 0.11
H5
ratio 1.0 0.41 0.08

FIG. 5

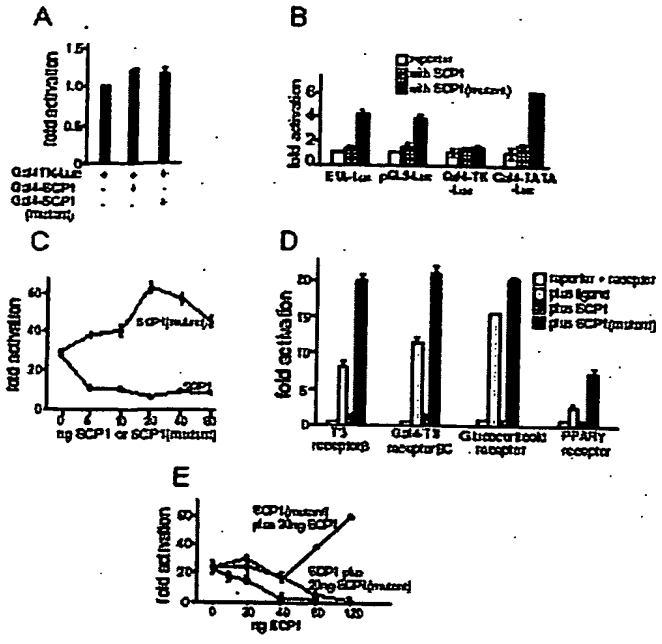

A
fold activation
B
fold activation
C
fold activation
ng SCP1 or SCP1(mutant)
D
fold activation
E
fold activation
ng SCP1

FIG. 6

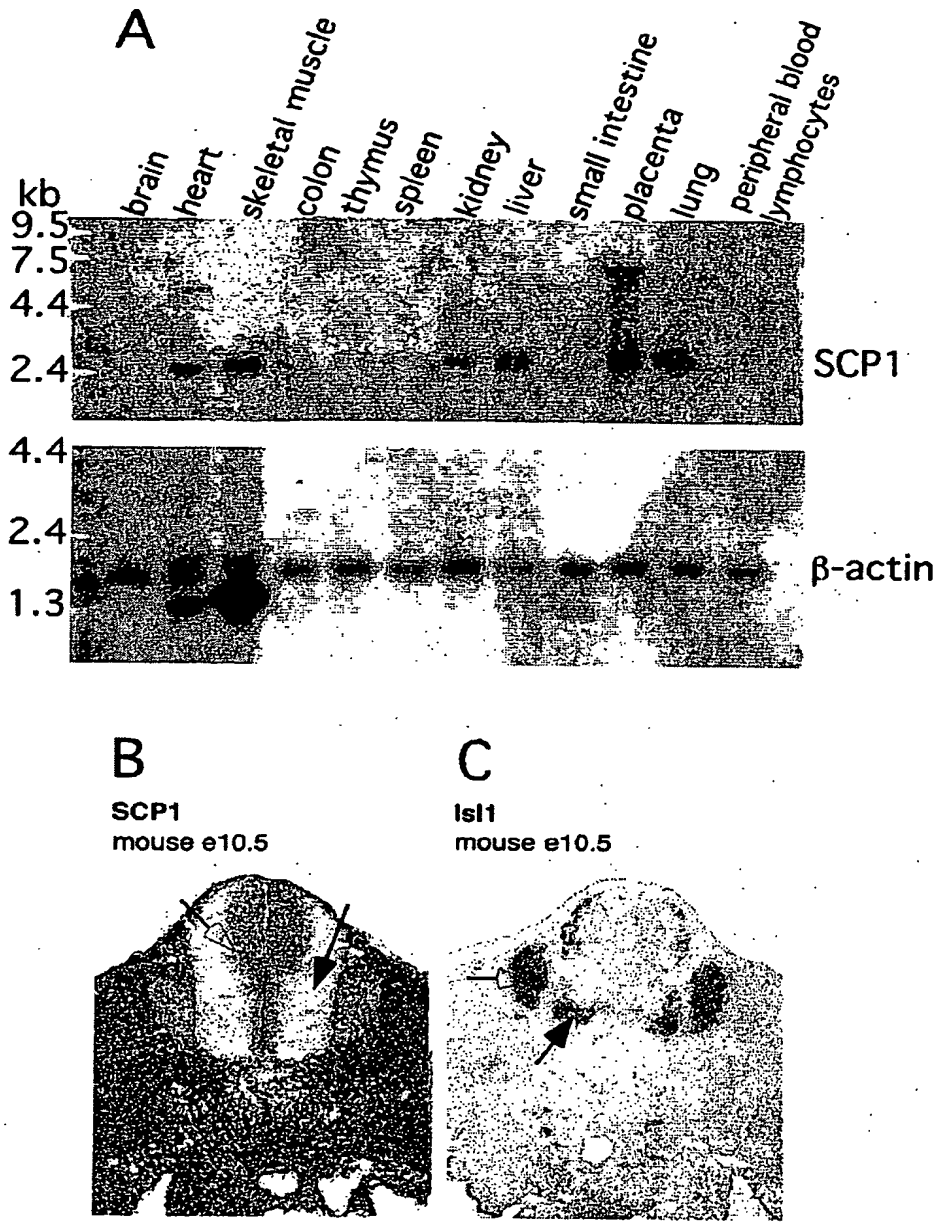

A
brain
heart
skeletal muscle
colon
thymus
spleen
kidney
liver
small intestine
placenta
lung
peripheral blood lymphocytes
kb
9.5
7.5
4.4
2.4
SCP1
4.4
2.4
1.3
β-actin
B
SCP1
mouse e10.5
C
Isl1
mouse e10.5

Figure 7

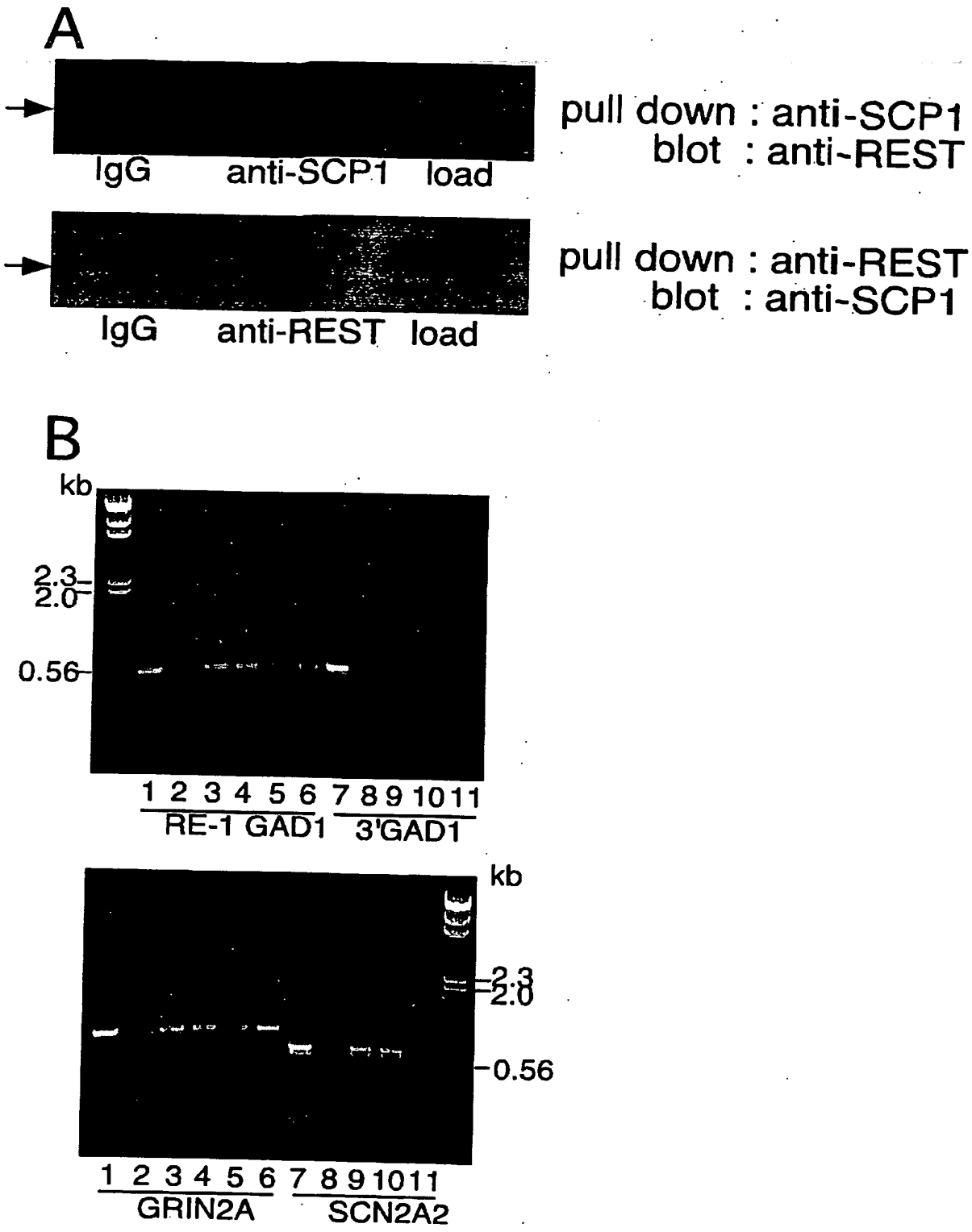
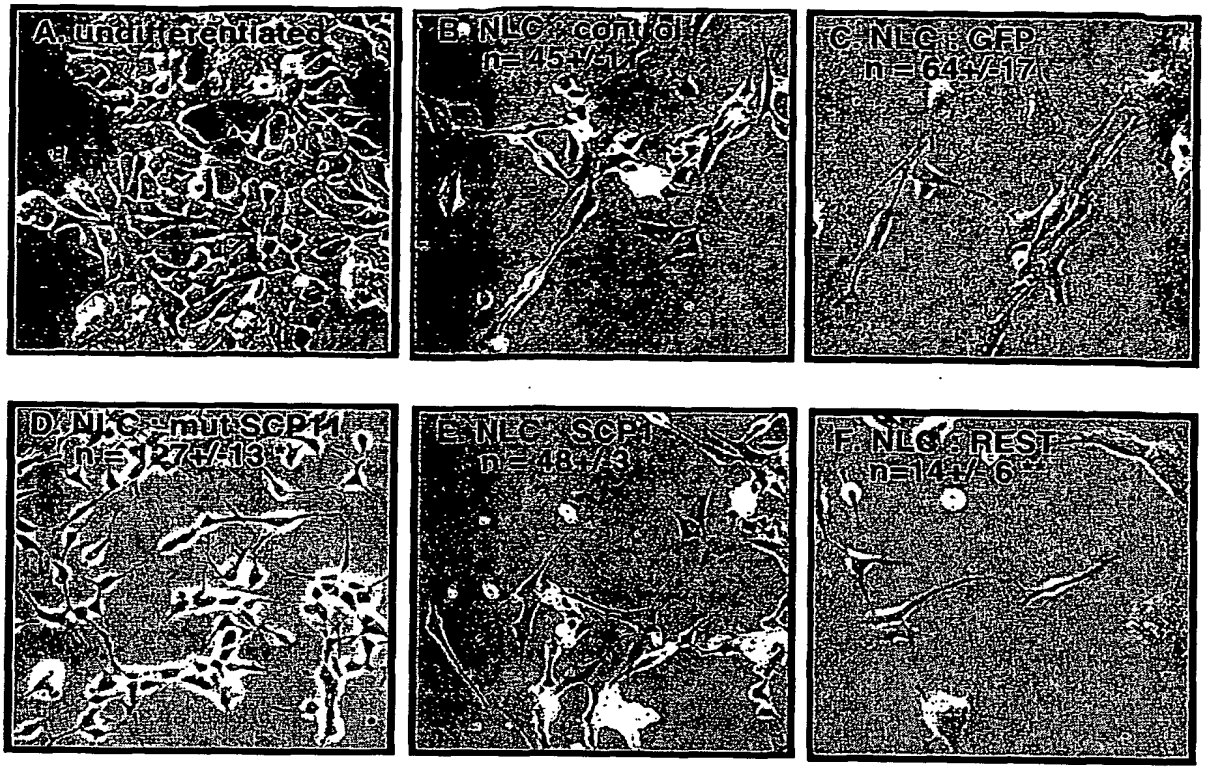
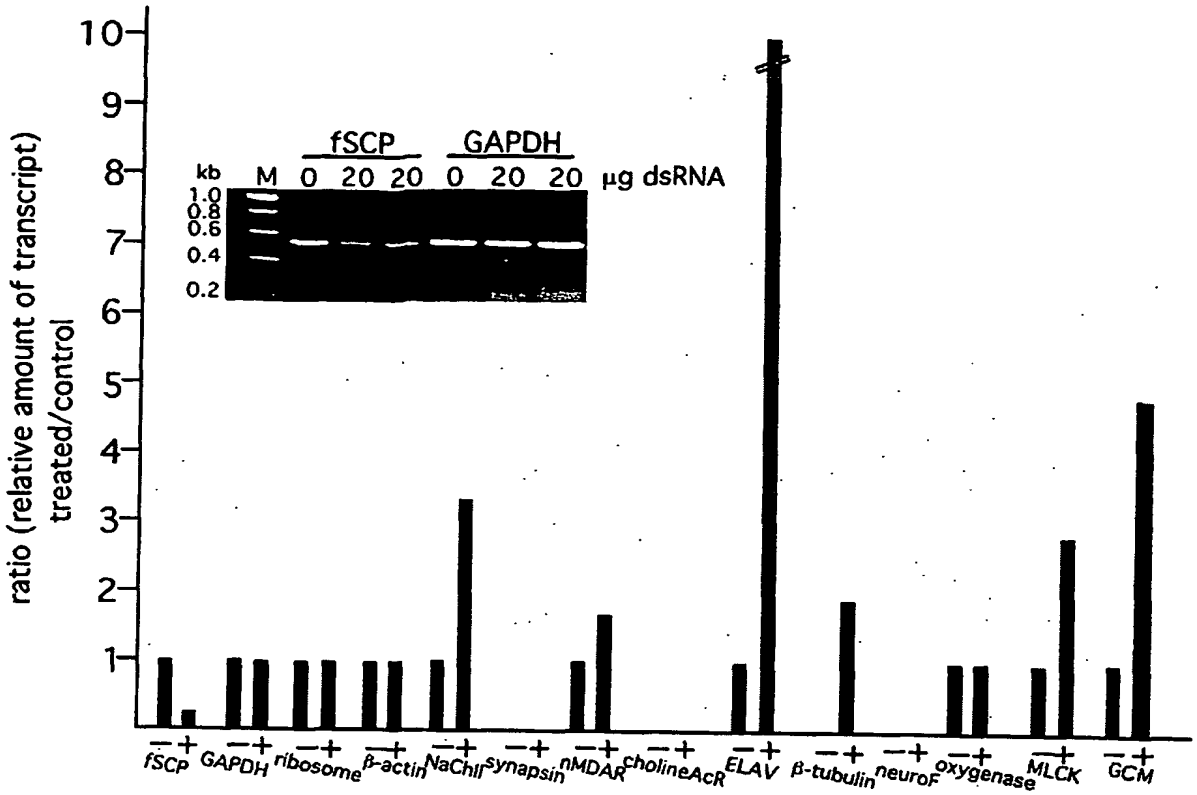

A
pull down : anti-SCP1
blot : anti-REST
IgG
anti-SCP1
load
pull down : anti-REST
blot : anti-SCP1
IgG
anti-REST
load
B
kb
2.3
2.0
0.56
1 2 3 4 5 6 7 8 9 10 11
RE-1 GAD1
3'GAD1
kb
2.3
2.0
0.56
1 2 3 4 5 6 7 8 9 10 11
GRIN2A
SCN2A2

Figure 8



* p = 0.001 compared to wildtype
** p = 0.008 compared to wildtype

Figure 9



gene		average Ct	std deviation
fSCP	control	21.1	0.18
	knockdown	23.3	0.22
GAPDH	control	17	0.1
	knockdown	17	0.19
ribosome	control	25	0.14
	knockdown	25	0.15
β-actin	control	15	0.1
	knockdown	15	0.01
NaChII	control	25.1	0.22
	knockdown	23.8	0.2
synapsin	control	29.5	0.26
	knockdown	29.5	0.4
nMDAR	control	15.8	0.5
	knockdown	15.1	0.16
cholineAcR	control	29.4	0.76
	knockdown	31.2	0.96
ELAV	control	26.8	0.19
	knockdown	22	0.69
β-tubulin	control	27.9	0.67
	knockdown	25.1	0.35
neuroF	control	30.2	0.83
	knockdown	30.1	0.55
oxygenase	control	23	0.46
	knockdown	23	2.16
MLCK	control	17.8	0.21
	knockdown	16.5	0.68
GCM	control	23	0.42
	knockdown	21	1.16

Figure 10